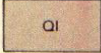
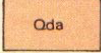
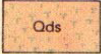
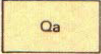


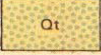
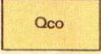
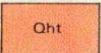
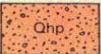


COMPILATION GEOLOGIC MAP OF THE PASCO BASIN, SOUTH CENTRAL WASHINGTON 1979

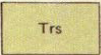

SURFICIAL QUATERNARY UNITS

 Ql	loess (HOLOCENE) - Predominately silt, includes some fine grained sand. Volcanic ash horizon common. Includes minor Pleistocene and older loess above maximum Pleistocene flood level (~330m)
 Qda	active sand dunes (HOLOCENE) - Chiefly medium-to-fine grained quartz sand. Some dunes contain high percent basalt sand
 Qds	stabilized sand dunes (HOLOCENE) - Chiefly medium-to-fine grained sand. Some dunes contain high percent basalt sand and/or silt. Volcanic ash horizon common
 Qa	alluvium (HOLOCENE-PLEISTOCENE) - Clay, silt, sand and gravel of variable thickness and sorting. Composition variable. Chiefly Holocene, includes some Pleistocene and older alluvium on ridges. At elevations below maximum Pleistocene flood level, composed of basalt, Ellensburg sediments and/or loess. Above flood level, composed of basalt, Ellensburg sediments and/or loess
 Qaf	alluvial fan (HOLOCENE-PLEISTOCENE) - Composition variable, same as alluvium, alluvial fans below maximum Pleistocene flood level are Holocene; alluvial fans above flood level may be Pleistocene or older
 Qld	landslide (HOLOCENE-PLEISTOCENE) - Consists of basalt and/or Ringold sediments displaced by gravity movement. Includes large slump blocks, block slides and earth flow. Active landslides on White Bluffs related to irrigation. Landslides composed of basalt associated with anticlinal ridges, Pleistocene or older
 Qt	talus (HOLOCENE-PLEISTOCENE) - Angular rock debris at base of cliffs and steep rock slopes. Chiefly basalt with Ellensburg sediments and loess
 Qco	colluvium (HOLOCENE-PLEISTOCENE) - Silt, sand, rock rubble and gravel generally poorly bedded overlying basalt. Generally < 1m thick. Includes slope wash and minor mass wastage debris. Clasts generally angular. Composed of basalt fragments and Hanford sediments, and loess deposits, often intermixed. Mapping unit used where sediment cover is thin and of multiple genesis

HANFORD FORMATION* (PLEISTOCENE)

 Qht	Touchet Beds (Flint, 1938) - Rhythmically bedded silt with stringers of coarse-grained sand and gravel. Deposited in low energy slackwater areas of Pleistocene floods, Predominately quartz and feldspar, often containing discrete ash horizons. Ice-rafted debris locally on top surface of unit.
 Qhp	Pasco Gravels* - Sorting and texture variable, includes sand to boulders; generally decreases in grain size away from major flood current channels. Multiple bedding forms and large flood bars common. Textural variations indicate major shifting of current channels, flood pulsations and/or multiple flood events. Composed chiefly of basalt, granite, quartzite, diorite, and porphyries. Primarily deposits of last major Pleistocene flood, 13,000 years B.P. (Mullineaux, et al., 1977). Includes older flood deposits with well-developed calcic horizons

RINGOLD FORMATION (PLIOCENE)

 Trs	Sand, silt and clay facies; includes pebble lenses and stringers. Silty clay units horizontally laminated, generally lacking current sedimentary structures. Silt and sand units display horizontal, ripple and cross bedding. Sand chiefly quartz and feldspar. Usually capped with caliche horizons. Contains diatomite beds, ash beds and fossils. Predominately fluvial, some lacustrine and eolian sediments
 Trc	Conglomerate facies, well rounded pebbles and cobbles supported by a sand matrix, includes lenses of coarse to medium-grained sand. Generally massively bedded with some minor imbrication; sand lenses often show cross bedding or foreset bedding. Pebbles and cobbles chiefly quartzite, granite, basalt, metamorphics and volcanic porphyries; sand matrix composed primarily of quartz and feldspar. Moderately to poorly indurated with silica, iron oxide and calcite

Source: Myers et al. (1979)

Figure 3.1-5b
Legend for General Geologic Map
Wallula Power Project